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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,915	05/25/2001	Thomas Daniel	208608US0PCT	2083

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EXAMINER

METZMAIER, DANIEL S

ART UNIT PAPER NUMBER

1712

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,915

Applicant(s)

DANIEL ET AL.

Examiner

Daniel S. Metzmaier

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-14, 16-18 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-14, 16-18 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/28/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-7, 10-14, 16-18, and 20-22 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 22 does not positively claim the dried hydrogel as covalently cross-linked by reaction with the carboxyl groups.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 6-7, 10-14, 16, 18 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Boschetti et al, US 5,075,371. Boschetti et al (examples and claims) discloses the polymerization of an acrylamide with the addition of sodium silicate and optionally forming particulate gels in oil followed by separation, and drying. Boschetti et al (examples and claims) discloses a number of sodium silicate, which inherently read on the alkali metal oxide to silica ratio claimed. Said materials are commercially available within said range. Boschetti et al (examples and claims) characterizes the gels as aqueous gels, which is deemed synonymous with the term hydrogel.

Boschetti et al (column 1) discloses the inorganic organic materials as chromatographic materials and would have been expected to have some absorbing properties to function as an chromatographic media. The concentration ranges of instant claim 2 clearly encompass calculated values disclosed in the Boschetti et al (examples and claims) reference.

To the extent Boschetti et al differs from the claims in the specified alkali metal oxide to silica ratio claimed, said range encompasses commercially available sodium

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silicate solutions and would have been obvious as conventional sodium silicate materials for their availability. Boschetti et al (column 2, lines 15 et seq) employs acid in the Boschetti et al process prior to the addition of the sodium silicate and defines the pH. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the alkali for their advantageous use as chromatographic materials.

Boschetti et al (column 2, lines 1-6) teaches the polymers may be made by simultaneous or sequential polymerization in aqueous medium, of sodium silicate, acrylic or allyl monomers and difunctional acrylic or allyl crosslinking monomers in the presence of a polymerization agent. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the alkali for their advantageous cross-link sequentially as contemplated in the Boschetti et al reference.

7. Claims 4-5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boschetti et al, US 5,075,371. Boschetti et al discloses the polymerization of an acrylamide with the addition of sodium silicate and optionally forming particulate gels in oil followed by separation, and drying as set forth in the preceding anticipation rejection.

Boschetti et al differs from claims 4 and 5 in the point of addition of the sodium silicate and the further combination of a neutralizing agent, i.e., alkali metal hydroxide or alkali metal carbonate.

Boschetti et al (examples) discloses the use of sodium hydroxide in the particle embodiment and teaches (column 2, lines 46 et seq) neutralization. Changes in the order of process steps has been held to be *prima facie* obvious. See MPEP

2144.04(C). Furthermore, the use of conventional neutralizing agents, i.e., sodium carbonate, is within the level of one having ordinary skill in the art at the time of applicants' invention for the advantage of buffering the system such as is employed in the Boschetti et al (example 7) reference.

Boschetti et al differs from claim 17 in the use of sodium silicate rather than potassium silicate claimed. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ potassium silicate as an obvious functional equivalent to the sodium silicate and their structural similarity.

Allowable Subject Matter

8. Claim 22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed August 28, 2006 have been fully considered but they are not persuasive.

10. Applicants (pages 8 and 9) assert the polymers of '371 polymers are not post cross-linked and are not structured polymers. This has not been deemed persuasive since '371 (column 2, lines 1-6) teaches the polymers may be made by simultaneous or sequential polymerization in aqueous medium, of sodium silicate, acrylic or allyl monomers and difunctional acrylic or allyl crosslinking monomers in the presence of a polymerization agent.

The composition claims are drafted in product-by-process format. A *prima facie* case of obviousness having been presented, applicants have the burden of coming forward with objective evidence to rebut said *prima facie* case of obviousness.

Since the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results, said step of post cross-linking has not been shown to distinguish the claims. To the extent said materials are characterized as such, said claims are not commensurate in scope with the breath of the asserted results, e.g., structured materials.

11. Applicants' (pages 8 and 9) arguments regarding the degree of cross-linking and structured versus non-structured particles have not been deemed persuasive since the claims do not limit the degree of cross-linking nor the degree of absorption.

Conclusion

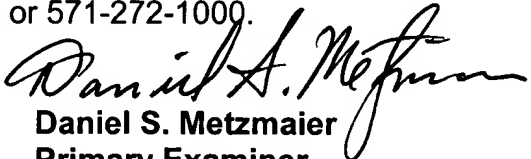
12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM